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Claims **ART 34 AMDT**

1. A nuclear reactor device comprising:
- a reactor containment (1), formed by a first wall member (2) defining an inner space (3),
 - a reactor vessel (6), housing a reactor core (7) and being provided in the inner space (3), and
 - an upper space (10) provided above the reactor containment (1) and defined by a second wall member (11),
- 10 characterized in that the first wall member (2) and the second wall member (11) have, seen in a horizontal section, an essentially identical cross-sectional shape and form an essentially common cylinder.
- 15 2. A nuclear reactor device according to claim 1, characterized in that said cross-sectional shape is essentially circular.
- 20 3. A nuclear reactor device according to claim 2, characterized in that the first wall member (2) and the second wall member (11) are cast in a continuous piece by means of sliding form casting.
- 25 4. A nuclear reactor device according to claim 3, characterized in that the first wall member (2) and the second wall (11) are cast in concrete with reinforcement members (29, 30) provided in the concrete and comprising tightening members (30) arranged to enable a biasing of said wall members (2, 11).
- 30 5. A nuclear reactor device according to claim 4, characterized in that said tightening members (29) extend in the second wall member (11) at least in one of the directions about the upper space (10) and along the upper
- 35 space (10).

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a 6. A nuclear reactor device according to ^{Claim 1} ~~any one of the~~
a ~~preceding claims~~, characterized in that at least the second
wall member (11) comprises a wall coating (28) provided onto
the inner side.

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a 7. A nuclear reactor device according to ^{Claim 1} ~~any one of the~~
a ~~preceding claims~~, characterized in that the upper space (10)
is divided into part spaces (12 - 16) by means of at least
one primary wall element (17) extending between two
10 separated attachment portions of the second wall member
(11).

8. A nuclear reactor device according to claim 7,
characterized by two primary wall elements (17) separated
15 from each other and each extending between two separated
attachment portions of the second wall member (11).

9. A nuclear reactor device according to claim 8,
characterized in that the two primary wall elements (17) are
20 essentially parallel to each other.

a 10. A nuclear reactor device according to ^{Claim 8} ~~any one of claims~~
a ~~8 and 9~~, characterized by two secondary wall elements (18)
which extend between the two primary wall elements (17) and
25 which between themselves and together with the primary wall
elements (17) form an isolated part space (12).

11. A nuclear reactor device according to claim 10,
characterized in that the isolated part space (12) is
30 located above a cover device (19) of a separating wall (9)
separating the upper space (10) from the inner space (3).

a 12. A nuclear reactor device according to ^{Claim 1} ~~any one of the~~
a ~~preceding claims~~, characterized by door members (22)
35 arranged to provide a passage (21) between at least two of
said part spaces (12 - 16).

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13. A method of constructing a nuclear reactor device, comprising the steps of:

- casting a first wall member defining an inner space of a reactor containment intended to comprise a reactor vessel to be arranged in the inner space and housing a reactor core, and
- providing a second wall member defining an upper space above the reactor containment, characterized in that the first wall member and the second wall member are cast by means of an essentially common form being lifted upwardly during the course of the casting process, wherein the first wall member and the second wall member have, seen in a horizontal section, an essentially identical cross-sectional shape and form an essentially common cylinder.

14. A method according to claim 13, characterized in that the said form comprises a sliding form.

20 a 15. A method according to ^{Claim 13} ~~any one of claims 13 and 14,~~ characterized in that the casting of the second wall member is preceded by the lifting to a position of prepared blocks comprising reinforcement members and an inner wall coating.

25 16. A method according to claim 15, characterized in that during the course of the casting process tightening members are provided in said wall member in such a manner that they extend in at least one of the directions about said spaces and along said spaces, and that the tightening members after the casting process are tightened to prestress said wall member.

35 17. A method according to claim 16, characterized in that the tightening members are provided in tubes provided in said wall member.

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18. A method according to claim 17, characterized in that after or in connection with said tightening concrete is injected into said tubes.